A Max II

The Macintosh® emulator for your Amiga®

User's Guide

A-Max II
and
A-Max II Plus

The Macintosh® emulator for your Amiga®

User's Guide for

Version 2.5

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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are

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- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

WARNING

Only equipment with shield-grounded cables (computer input-output devices, terminals, printers, etc.), certified to comply with appropriate FCC limits can be attached to this device. Operation with non-certified equipment may result in communications interference. Changes or modifications to this device not expressly approved by ReadySoft Incorporated could void the user's authority to operate the device.

This manual was created using Microsoft Word and Ready,Set,Go! by Letraset running under A-Max II Plus and System 7 on Commodore Amiga computers.

A-Max II Software and Design by Simon Douglas.
Cartridge Design by Don Holtz and David Foster.
Plus Card Design by Ralph and Gunther Doewich, CyberCube Research Ltd.
User's Guide by Gary Gehman and Simon Douglas.

Table of Contents

Section 1
INTRODUCTION

A-Max II is a hardware and software system that allows Macintosh software to run on any Amiga model. It will do so making use of your Amiga's resources such as RAM, hard and floppy drives, serial and parallel ports, mouse and keyboard. Because A-Max II runs original, unaltered Macintosh applications directly on your Amiga, you will find that most software runs as fast or faster on your Amiga as on a similarly equipped Macintosh. An Amiga system with A-Max II lets you run all the Amiga's software as well as giving you access to most of the productivity software that has made the Macintosh a success.

Although A-Max II supports only 128K Mac Plus ROMs, there are several extensions made to the capabilities of these ROMs including supporting faster processors such as the Amiga 3000's Motorola 68030, Memory Management Unit and floating point coprocessor, large RAM sizes, large screen sizes and virtual screens larger than your physical display with smooth panning.

To accomplish its task A-Max II shuts down the normal AmigaDOS operating system. Therefore, it is not possible to multitask Amiga programs with Macintosh applications. After using A-Max II, it will be necessary to reboot your computer to resume AmigaDOS operation.

1.1 About this Manual

This manual will tell you how to use the A-Max II system and point out the differences between an Amiga with A-Max II and a Macintosh. This manual attempts to document the installation and operation of A-Max II and ReadySoft products only. It is assumed that you are already familiar with the Macintosh system and know how to use the Mac applications you want to run. You should read this User's Guide in its entirety before attempting to use A-Max II. The manual has been constructed according to the following general outline:

- **Introduction**
The section you are now reading;

- **Installing A-Max II**
Describes setting up the hardware elements of A-Max II; installing the Apple ROMs and the A-Max II Plus card or A-Max II cartridge and optional Apple Drive;

- **Preparing Software**
Describes the different disk formats A-Max II can handle and how to get Macintosh system software into a form that is usable by your system;

- **A-Max II Startup**
Describes how to get A-Max II up and running and the various configuration options that are available;

- **A-Max II Operation**
Discusses the various differences between a true Macintosh and an Amiga functioning as one under A-Max II;

- **Using A-Max II with Hard Drives**
Describes how to set up Amiga hard drive partitions for use as A-Max/Macintosh storage devices. Also, how to access external SCSI devices through the Amiga controller;

- **Software Compatibility**
Presents information relating to different versions of the Macintosh system software and describes the sorts of third-party programs that will not work under A-Max II;

- **File Transfer Utilities**
Describes the tools provided for moving data across the several disk formats;

- **Printers**
Explains how to use your Epson compatible or other printer with A-Max II and how to print PostScript files to a LaserWriter or compatible laser printer;

- **Plus Card Specific Features**
Discusses the additional features of the A-Max II Plus system;

- **Glossary**
Contains an alphabetized list of terms used in this manual.

1.2 A-Max II and A-Max II Plus

A-Max II is available in two configurations:

- The base A-Max II system which consists of the A-Max 2.5 Software and an external cartridge which will plug into any Amiga's floppy disk drive port. The cartridge has two sockets inside for ROM chips and provides externally a connector to which an Apple 800K floppy disk drive may be connected, and a pass-through connector for Amiga external floppy drives. The Apple drive is required to read and write Mac format disks.

- The A-Max II Plus system which consists of the A-Max 2.5 Software and an internal expansion card for the A2000 or higher. The card has two sockets for ROM chips and connects inside your Amiga to the floppy disk drive chain, enabling you to read and write Mac format disks with your standard Amiga drives - no Apple drive is required. The Plus card also provides two serial ports that are pin compatible with those found on a real Mac. The serial ports can be configured as RS422 serial, LocalTalk, or MIDI. The MIDI option is a feature unique to the Plus card that enables direct connection to MIDI standard digital musical instruments, without any need for an external interface box such as the Mac or Amiga normally require.

1.3 New Features of the A-Max 2.5 Software

If you are upgrading from A-Max II Version 2.0 to Version 2.5, you should read this manual to find information on the following new features:

- The **Startup Preferences** displays and capabilities have been considerably revised. The **Memory Preferences** options have changed and there are completely new **Hard Disk / SCSI Preferences** displays and other **General Preferences** options;

- Commodore's 1.76 Mb high density floppy drive is supported to read, write and format 1.44 Mb disks compatible with the Apple SuperDrive™;

- Support for virtual scrolling displays up to 2048 x 2048 pixels has been added;

- Apple System versions up to System 7.0 have been made compatible;

- File transfers direct to Fast Filing System formatted AmigaDOS hard drive partitions are supported;

- The Apple Extended keyboard is now emulated rather than the old Mac Plus keyboard. This makes the function keys, Esc key and IBM equivalent keys (with applications like SoftPC®) active;

- The Apple SuperDrive™ is emulated to support MS-DOS disks with the **Apple File Exchange** file transfer program, and other applications such as **SoftPC**, the IBM emulation package;

- Macintosh battery backed-up parameter RAM is simulated by saving the information on the boot disk;

- You can autorun the A-Max II startup program with an **auto** keyword from the CLI.

1.4 What's Included

Your A-Max II package should contain:

- The A-Max II Plus expansion card or the A-Max II cartridge;

- One disk labelled **A-Max Program**;

- One disk labelled **A-Max Utilities**;

- This manual;

- An A-Max II registration card.

It is very important that you complete and mail the registration card back to us. As well as giving you a 90 day warranty, this card is the only way we can inform you of product upgrades and other information regarding A-Max II. Complete and send in your card now.

The **A-Max Program** disk contains a file called **ReadMe** that includes information that was unavailable at the time this manual went to print. After reading the manual, you should read this file for any updates and corrections.

1.5 What's Not Included

In order to use A-Max II, you must supply:

- Apple 128K ROMs. These come as a set of two 28-pin chips from an original Mac 512K E or a Mac Plus. No other ROMs are compatible with A-Max II Version 2.5;

- Macintosh System disk in either A-Max or Macintosh format (see Section 3.0 for information on what you will need in the way of Apple system software). If the disk is in Macintosh format and you aren't using the A-Max II Plus card, or don't have an Apple disk drive, you will need to transfer the information using one of the methods described in section 3.5 before you can make use of it;

- The Mac applications and data you want to run, again, in A-Max or Macintosh format.

You may also want:

- An Apple 800k external disk drive, if you are using the A-Max II cartridge. This will enable you to use Macintosh format disks directly under A-Max II without having to first transfer them to A-Max format. It also allows you to format and write Macintosh readable disks so you can transfer data back to the Macintosh;

- An A-Max II Plus MIDI connector cable, if you have the Plus card and would like to make use of its built-in MIDI features. The cable connects to one of the card's mini DIN-8 sockets and provides standard MIDI DIN-5 IN and OUT sockets. You won't need this cable to use a standard Mac external MIDI interface with A-Max II Plus. Mac MIDI interfaces may be connected to the Plus card with a standard DIN-8 cable, exactly as you would to a real Macintosh.

Section 2
INSTALLING A-MAX II

WARNING

Unplug your Amiga before installing the A-Max II cartridge or Plus card. Installing the card or cartridge with the power on could cause injury to the installer and damage to the equipment. ReadySoft will not be responsible for any damages caused by improper installation of the card or cartridge. Such improper installation may void the warranties on both the A-Max II hardware and your Amiga.

2.1 Backing up your Disks

The first thing you should do is make a backup copy of the **A-Max Program Disk**. This disk is not copy-protected so it can be backed up with the Amiga Workbench **Duplicate** menu command, the CLI **Diskcopy** command, or any Amiga disk backup utility.

The **A-Max Utilities** disk is not copy-protected. However it is in a special format that has two partitions — one is read by a Macintosh when the disk is inserted in an Apple drive or by A-Max II Plus, and the other by the A-Max II cartridge system when inserted in an Amiga drive. The contents of each partition are identical; the disk is formatted in this manner so it may hold programs for two machines at once. You should backup either half of the **Utilities** disk once you get A-Max II up and running with a System disk, or with your real Macintosh. Backup the disk by dragging its files to another disk or folder - don't try a full-disk copy.

ReadySoft supplies A-Max II without copy-protection for your convenience so please don't lend, give or otherwise distribute this program to anyone. Remember that software piracy discourages development of new products and, in particular, upgrades to A-Max II.

2.2 About the Mac ROMs

There have been several revisions of both Macintosh 128K ROMs but all revisions will work equally well with A-Max II. The Macintosh ROMs are Apple part numbers 342-0341-x and 342-0342-x where 'x' is a revision letter A,B,C. Often the set of two chips will have different revision letters, but always keep the two as a set — the letters need not match.

WARNING

If you are removing the ROMs from a Macintosh, be extremely careful not to come into contact with the wires connecting the display tube to the video board. These may contain a deadly high-voltage charge even if the computer is unplugged. Apple ROM chips, like all electronic devices, are extremely sensitive to static electrical discharge. Improper handling of the chips could damage them. Be sure to ground yourself by touching a metal surface or using a static protection wrist strap (available from Radio Shack) before handling the ROM chips.

2.3 Installing the A-Max II Cartridge

This section covers installation of the A-Max II cartridge system, including the optional Apple external floppy drive.

2.3.1 Installing the ROMs in the Cartridge

The two Mac ROM chips must be inserted into the empty sockets on the A-Max II cartridge. To do this you must first carefully unscrew and remove the top cover of the A-Max II case. When the case is open, you will see a circuit board with several small chips and two large 28 pin IC sockets. Insert a ROM chip into each socket (either chip in either socket — the order doesn't matter)
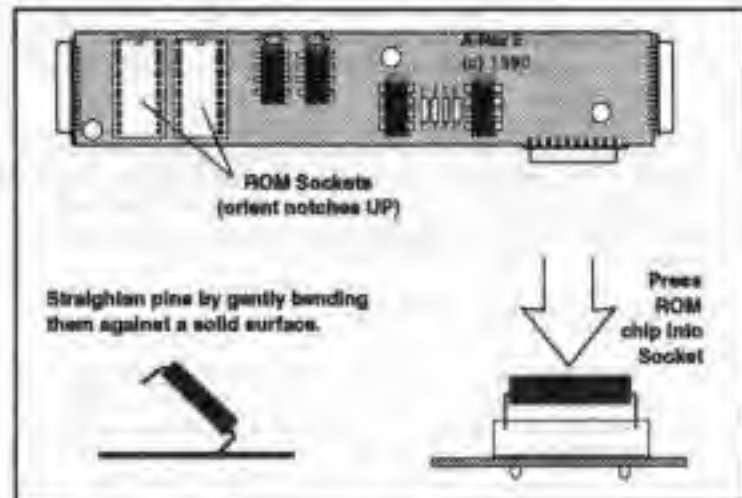
Placement of Macintosh ROM chips on the A-Max II board.

with the U-shaped notch of each chip pointing in the same direction as all the other smaller chips on the board.

Ensure that the two rows of pins on each chip are not crooked or broken. To insert the chip, start with one row of pins resting lightly in their sockets, then align the second row. Finally, push the whole chip firmly into place. If the chip is very hard to push in all the way, check that no pins are bent up underneath the chip. If there are, straighten them out and try again.

When both the ROM chips have been socketed, hold the board so that the "A-MAX © ReadySoft" text is the right way up and check that the notches of all the chips point up and that no pins are bent or broken. Then, replace the cover of the case.

2.3.2 Adding an Apple 800K Drive

Although the A-Max II cartridge system is functional without one, the addition of an Apple drive produces the optimum configuration for emulating the Macintosh on an Amiga. If you have an Apple 800K external disk drive, you can use it with A-Max II to directly read, write and format Macintosh format disks. You can also move programs and files effortlessly from A-Max II to Mac format disks and back.

With the Amiga's power off, plug the connector of the Apple drive into the 19-pin socket on the side of the A-Max II cartridge. Once installed, you can leave the Apple drive plugged in at all times. It will not affect the Amiga while running under AmigaDOS.

We cannot guarantee that all third party Mac compatible drives will function with A-Max II. It has been our experience that Apple manufactured drives work better than third party drives. Note, however, that the older, single-sided (400K) Apple drives and the high density SuperDrive will not work with A-Max II. If connected, they will simply be ignored.

2.3.3 Installing the A-Max II Cartridge

With the ROMs in place, you are almost ready to connect the cartridge to your Amiga. Included with the A-Max II cartridge are two sets of plastic legs. You may need to use one or the other pair, depending on which model of Amiga you own. If you have an A500 the cartridge will sit at the same level as the computer and will not require legs. If you have an A1000, insert the longer set of legs into the holes in the bottom of the cartridge case. If you have an A2000 (or are plugging the cartridge into the back of an Amiga external disk drive), insert the shorter set of legs into the holes.

WARNING

Always turn off the Amiga before connecting or disconnecting the A-Max II cartridge, or plugging in an Apple or Amiga drive. Failure to do so could damage your equipment.
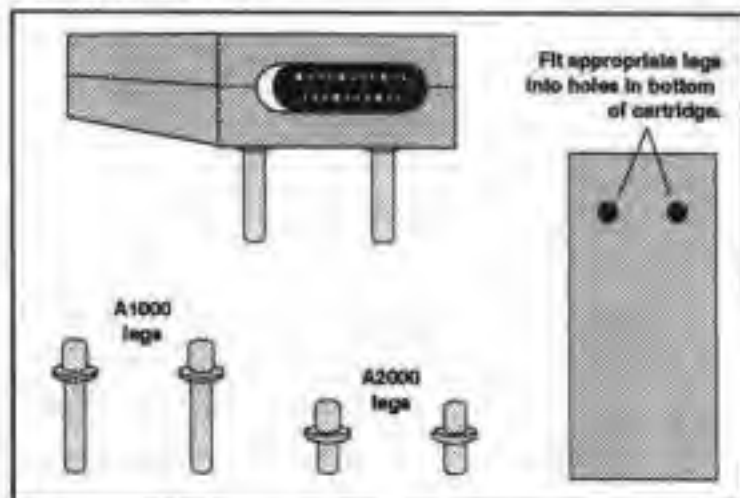
Plastic legs are supplied to support the A-Max II cartridge.

The cartridge can either be plugged into the back of the last external Amiga drive or into the external disk drive port on the back of your Amiga itself. Although it is probably more convenient to have the cartridge plugged into the back of an external drive, some disk drives will not allow this as they do not pass power through to their rear connector. If the A-Max II software does not recognize the cartridge when it is plugged into the back of an Amiga drive, you will have to plug the cartridge directly into the Amiga's disk drive port and plug the external drive into the A-Max II cartridge's pass-through connector.

Once the cartridge is plugged in, it may be left connected. It will not interfere with the normal operation of the Amiga. The cartridge will not become active until you run the A-Max II Startup program. Remember that the Amiga can only handle a maximum of four disk drives and with the A-Max II cartridge installed you can have up to three Amiga drives and one Apple drive. Also, any Amiga drive connected through the A-Max II cartridge will become one drive number higher than it was when directly connected to the Amiga, for example DF1: will become DF2: when attached to the A-Max II cartridge's pass-through connector).

An A-Max II Extender cable is available from ReadySoft for $24.95 plus $4.00 shipping and handling. This cable allows you to place your A-Max II cartridge in a more convenient position, away from the back of your Amiga.

2.4 Installing A-Max II Plus

This section covers installation of the A-Max II Plus system.
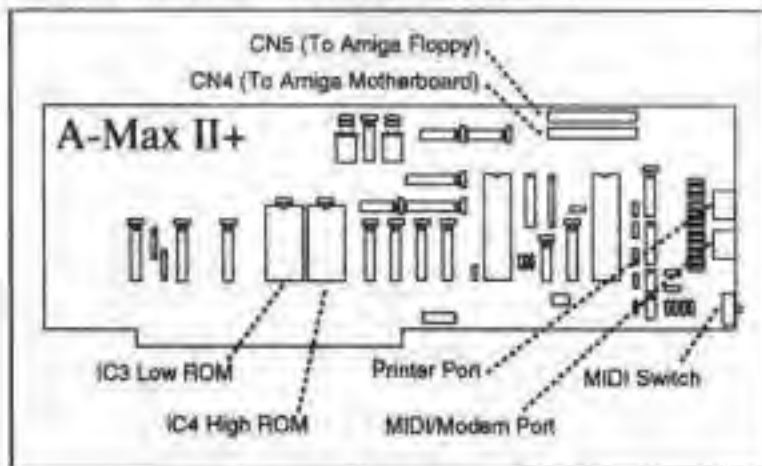
Component Locations on the Plus Board

2.4.1 Installing the ROMs in the Plus Card

The two Mac ROM chips must be inserted into the empty 28-pin IC sockets on the A-Max II card, labelled **LOW ROM (IC3)** and **HIGH ROM (IC4)**. Insert a ROM chip into each socket (either chip in either socket — the order doesn't matter) with the U-shaped notch of each chip matching the notches in the sockets.

Ensure that the two rows of pins on each chip are not crooked or broken. To insert the chip, start with one row of pins resting lightly in their sockets, then align the second row. Finally, push the whole chip firmly into place. If the chip is very hard to push in all the way, check that no pins are bent up underneath the chip. If there are, straighten them out and try again.

When both the ROM chips have been socketed, hold the board so that the "A-Max II Plus Copyright ©1992 ReadySoft Incorporated" text is the right way up and check that the notches of the ROM chips point up and that no pins are bent or broken. You are now ready to install the card in your machine.

2.4.2   Installing the A-Max II Plus Card

Remove your Amiga's cover as described in the manual accompanying your machine.

The Plus card will install in any free 100-pin Zorro slot in your machine, but for convenience in connecting the floppy drive connector it is recommended that you use the slot closest to the power supply and floppy drives in the A2000, and the top-most slot in the A3000. Decide on which slot you wish to use and plug the Plus card in as described in your Amiga's manual.

In order to read Mac format disks in your Amiga drives, you need to connect the Plus card's 34-pin floppy connector into the drive chain. Disconnect the 34-pin ribbon cable that presently connects the Amiga motherboard to the internal floppy drives from the motherboard connector and attach it to the identical connector labelled **TO AMIGA FLOPPY (CN5)** on the Plus card. Next, take the supplied 34-pin extra ribbon cable and use it to connect the Plus card connector labelled **TO AMIGA MOTHERBOARD (CN6)** to the now empty Amiga motherboard connector. Check the orientation of all cables - the colored stripe on each cable marks pin 1 and this should match the labelled pin 1 on each connector.

If you wish to make use of MIDI software with A-Max II, plug the optional MIDI cable into the mini DIN-8 serial socket labelled **MODEM / MIDI** and flick the Plus card's MIDI control switch to the position labelled **MIDI**. Otherwise, make sure the switch is in the position labelled **STD**.

2.5 Installing the A-Max 2.5 Software

The AmigaDOS format **A-Max II Startup** program and associated utilities can be installed on your hard drive. Starting up from a hard disk is a much quicker process than from floppy disks. The **A-Max Program** disk is not copy-protected and includes an automatic hard disk installation program called **A-Max II Install**. Simply click on the **A-Max II Install** icon and the necessary A-Max II files will be copied to the current system boot partition of your hard drive.

You may choose to manually copy the files over to your hard disk; nearly everything is contained within the A-Max II drawer on the program disk. However, you should be sure to read the rest of this manual carefully — particularly the sections about using A-Max II with partitions on your hard disk — to make sure you copy all of the necessary files. The DEVS: directory of the disk contains hard drive controller device drivers that A-Max II needs to operate with hard drives.

Note (to Amiga 1000 owners)

    If you wish to use your Kickstart RAM with A-Max II (see section 5.2.4), you must boot from an exact copy of your original **A-Max Program** disk. This disk has a non-standard boot block that enables A-Max II to take over the Kickstart RAM. If the boot block is rewritten or destroyed, you will not be able to access this Kickstart RAM, even though all other aspects of the A-Max II program work correctly. It is advisable, therefore, to keep your disk write-protected at all times to avoid viruses which often attack the boot sectors of floppy disks. If your boot block becomes corrupted, you can use the **FixBootBlock** command on the **A-Max Program** disk to rewrite the correct boot block.

Section 3
PREPARING SOFTWARE

With the Macintosh ROMs installed and the A-Max II hardware installed in your Amiga, you will be ready to mount the necessary software that makes your machine Macintosh compatible. Before discussing the methods for accomplishing this, however, we must cover the differences between Amiga, A-Max II, and Macintosh disk formats.

3.1 Disk Drives and Formats

The Amiga's floppy disk drives record data at a constant speed while the read/write heads move in and out across the disk, writing or reading information. The floppy disk drives used in a Macintosh are able to vary the speed with which data is placed on the disk while reading and writing. This does not gain the Macintosh any advantage in capacity over other disk drives. It does make emulating the Macintosh on other machines considerably more difficult.

All computers that use disk drives of one type or another also use their own logical methods for recording the information stored on them. These methods are called file formats and most computers use their own format. You should already be familiar with the 3.5" floppy disk drive(s) in your Amiga and the AmigaDOS file format that the Amiga uses. As mentioned, the Macintosh has its own unique disk drives and it also has its own format for encoding information on the drive. The AmigaDOS and Macintosh file formats are not directly compatible.

ReadySoft has devised a way of using the Amiga's single-speed disk drives to read and write Macintosh formatted files. This method involves the use of a special A-Max II disk format. The following discussion will provide details about these different formats.

3.2 Macintosh and A-Max II Formats

The Macintosh disk format, as mentioned, is Apple's unique way of encoding their program information onto the disks in Macintosh's variable-speed drives. If you want to directly read or write Macintosh format floppy disks, you must attach an Apple compatible 800K disk drive to the A-Max II cartridge's 19 pin drive port.

When your Amiga is running A-Max II Macintosh emulation, however, all of your normally Amiga floppy drives will be able to create disks with the special

A-Max II format. This special format can receive Macintosh format files. A-Max II format disks will not be readable in either a Macintosh floppy drive or an Amiga drive under AmigaDOS operation, though, so be sure to keep your floppies separately stored or labelled to avoid confusion.

The **A-Max Utilities** disk included with your A-Max II package is an exception to this rule. This disk has been specially constructed to contain an A-Max format partition and a Macintosh readable partition. This Utilities disk provides the tools to create your first A-Max II System disk.

3.3 Preparing your First System Disk

This section applies only to users of the A-Max II cartridge system **without** an Apple 800K floppy drive connected to their cartridge. A-Max II Plus and Apple drive owners can skip to section 4.

It is key, here, to realize that before you can make A-Max II work for you, you must get the vital Macintosh System and Finder files into some format that is readable by A-Max II. We strongly recommend purchasing, or at least borrowing, an Apple compatible disk drive for this purpose. A-Max II will boot into Macintosh emulation simply by placing a disk containing System and Finder files (hereafter referred to as a System Disk) into the Macintosh drive. You can read and write Mac format disks directly in your Mac drive, and transferring software to A-Max II format disks is simply a matter of dragging files from the Mac disk icon to a blank disk in an Amiga drive. This method is the simplest, most complete Macintosh emulation possible with the A-Max II cartridge system.

The next simplest approach is to find someone else who uses A-Max II and who will allow you to make an A-Max II format System disk on their computer. Some A-Max II dealers have offered this service to their customers.

Note
> In addition to reading A-Max II format disks, the Amiga drives are also capable of reading disks formatted by Spectre and Magic Sac. These are Macintosh emulation products for the Atari ST platform. If you have access to a System Disk in either Magic Sac or Spectre format, you can use these to boot A-Max II as well.

In the absence of these two possibilities, ReadySoft has supplied, on the **A-Max Utilities** disk, a tool that will allow you to create an A-Max II readable System disk on a real Macintosh. This is the **Disk Transfer** program.

3.4 Macintosh Disk Transfer Software

The **Disk Transfer** software is a Mac program that allows you to transfer disks from Mac to A-Max II format without the need of an Apple external drive for your Amiga, however, you will need access to a real Macintosh in order to produce the transfer disks. These disks have a double sided capacity of only 272K.

If you must use the **Disk Transfer** program to prepare your first System disk, you will need access to the System 4.1 revision of Macintosh software. This is because both System and Finder files must be present on the disk to boot A-Max II into Macintosh emulation. Later versions of these two files (e.g. System 6) are too large — even when stripped of fonts and desk accessories — to fit onto a 272k disk.

The older System 4.1 can be stripped down and transferred onto a 272K **Mini Transfer Disk** (see procedure below). Once you have this disk prepared and are able to boot A-Max II into Macintosh emulation, you will be able to format 800K A-Max II disks and can install more recent versions of the System and Finder files.

3.4.1 Using Mini Transfer Disks

You will need a Macintosh with at least one 800K floppy drive, the A-Max Utilities disk, a copy of Macintosh System 4.1 or 4.2, and a blank 3.5" floppy disk.

> • On a Macintosh, execute the **Disk Transfer** program on the **A-Max Utilities** disk. Click the **Make Mini Transfer Disk** button and then insert a blank disk in the destination drive when requested.

The disk will be formatted and initialized to 272K and when formatting is complete will be ejected.

Once a Mini Transfer Disk (MTD) has been formatted, you can reuse it for subsequent transfers without reformatting.

• Now, **Quit** from the **Disk Transfer** program and return to the Desktop.

• Re-insert the formatted MTD. It will appear as a normal disk icon, but will show only a 272K capacity.

• Copy the files you wish to transfer onto it.

Note

In the case of System files, it may be necessary, first, to remove most of the fonts and desk accessories using the Mac's **Font/DA Mover** utility.

• Run the **Disk Transfer** program again.

• Click on the **Prepare Mini Transfer Disk** button.

• Insert the MTD in the destination drive as requested and click **OK**. The **Prepare Mini Transfer Disk** command moves the MTD's contents to a different area on the same disk that is readable with Amiga drives.

The Mini Transfer Disk can now be used simply by inserting it in an Amiga drive when A-Max II requests it. The disk will appear as an ordinary disk, but with a capacity of 272K. While A-Max II is incapable of writing to these disks, it is possible to format other disks and copy files from the MTD to them.

With a MTD containing Mac System and Finder files, you can now switch on your Amiga and execute the **A-Max II Startup** program.

Section 4
A-MAX II STARTUP

This section describes how to startup and boot A-Max II with a Mac system disk.

4.1 Startup Program

Power up your Amiga in your usual fashion. Insert the **A-Max Program** disk and click twice on its icon to open. Inside a drawer marked **A-Max II**, you will find the **A-Max II Startup** icon. Click twice to launch the program. **A-Max II Startup** and other associated files are all grouped together inside the **A-Max II** drawer to facilitate hard disk installation. If you have not already done so, but would like to, you can copy these files simply by dragging the whole **A-Max II** drawer into your hard disk icon (see Section 2.5 —Installing the A-Max 2.5 Software).

If you are running the **A-Max II Startup** program from the CLI rather than Workbench, you may add the option **auto** to the command to start the card or cartridge without any user action, for example:

```
run "A-Max II Startup" auto
```

If you don't select the autorun option, A-Max II will present you with it's preferences screen before running. Clicking on the **Start A-Max II** button will start the card or cartridge. The preferences options are discussed in Section 5. For now, the default configuration will most likely suffice.

4.2 The Macintosh Boot Screen

A few seconds after after the ROMs have been installed, the screen will flash through several colours - black, green then blue. Finally, a Mac screen will appear with a picture of a disk with a flashing question mark, and a copyright message at the top. This is the Mac asking you to insert a System disk. The Mac can accept a System disk in any drive.

• If you are using A-Max II Plus you can insert a Mac format System disk in any of your Amiga drives.

• If you have an Apple drive connected to the A-Max II cartridge, you can simply place a Mac format System disk in that drive.

• Otherwise, you should put an A-Max II, Magic Sac/Spectre, or Mini Transfer disk with a system on it in an Amiga drive.

When you insert a disk in any drive, A-Max II will try to start from it. If the disk contains the necessary files, you will get a happy Mac icon and then the "Welcome to Macintosh" window. If not, A-Max II will reject the disk and display a flashing "X," indicating you should try another disk.

It is possible that you might get a black screen and a sad Mac icon. This means a System Error occurred during the boot process. To reboot from a sad Mac display, click the right mouse button. Try a different System disk and, if the same symptom occurs, check your A-Max II preferences (particularly your memory configuration and size) and check your ROMs for damage.

Section 5
STARTUP PREFERENCES

When A-Max II starts up it will begin by displaying a screen of configuration options. You can tailor A-Max II to your liking and then save these settings as automatic defaults.

The various options are divided into five windows - **Video, Memory, Hard Disk/SCSI, Serial/Parallel,** and **General.** There is a large button for each for these windows on the main screen.

5.0.1 Save and Start A-Max

The **Save** button will save your selected configuration to a file in the DEVS: directory so that the next time you run A-Max II the same options will automatically be selected.

Clicking the **Start A-Max** button (or simply pressing the **Return** key) will start the A-Max II boot process. The Mac ROMs and A-Max II cartridge or Plus card will be checked. If all is well, you can click the **OK** button or press **Return,** and after a few seconds you will see the Mac boot screen.

If A-Max II cannot startup, you will get an error message stating the problem. If you get a cartridge or Plus card error, make sure the ROMs and card or cartridge are installed as outlined in sections 2.2 and 2.3.

5.1 Video Preferences

This window controls how A-Max will display a Mac desktop of a size you select. The A-Max 2.5 Software allows a Mac screen with a size limited only by the amount of available CHIP RAM. You also control the physical attributes of the display you will be using here - its size, position and video mode (such interlaced and/or Productivity.) The **Video Preferences** window is similar to AmigaDOS 2.0's **ScreenMode** preferences program.

5.1.1 Video Modes

The following options are available under the **Video Mode** heading. They control the video output mode used to display the physical screen.

- Hi-res
- Hi-res Interlaced
- Productivity
- Productivity Interlaced
- A2024

Hi-res and **Hi-res Interlaced** refer to standard Amiga display modes, available on all Amiga models. The Hi-res mode provides a base resolution of 640 x 200 (640 x 400 interlaced) with any monitor. Hi-res Interlaced is recommended as it has something close to a 1:1 aspect ratio, and is compatible with all of the available flicker fixers.

The **Productivity** modes are only selectable if your machine has Commodore's Enhanced Chip Set installed. At present, the A3000 is the only machine that comes standard with these chips. The Productivity mode provides a base resolution of 640 x 400 (640 x 800 interlaced) with a MultiSync or VGA type monitor.

The **A2024** mode requires the very high resolution (1008 x 800) Commodore A2024 monitor (or Viking Moniterm). The A2024 mode ignores the settings of **Visible Size** and **Display Size.**

5.1.2 Visible Size

The following options are available under the **Visible Size** heading. They control the size of the physical screen to be displayed:

- Workbench
- 512 x 342
- 640 x 400 (NTSC) or 640 x 512 (PAL)
- 672 x 460

The **Workbench** setting uses the size of the Workbench screen, as recorded in your AmigaDOS preferences file. If you are using Workbench version 2.0 you can set these dimensions directly, with **Overscan** preferences tool. If your Workbench version is 1.3 or earlier, you can use a program such as **MoreRows** to adjust the size of your Workbench screen.

The **512 x 342** option selects the size of the standard Macintosh Plus or Classic screen. This is the minimum size that can be used; anything smaller will be forced to this size.

The third option is the standard Amiga Hi-res screen size (units equipped for European PAL video standards can display 640 x 512 pixels. The U.S. standard, NTSC, provides for 400 lines).

The **672 x 460** setting is a common overscan screen size achievable in either Hi-res or Productivity, NTSC or PAL.

5.1.3   Display Size

This option controls whether or not to use a Mac display size that is larger than your actual physical screen size.

The **CHIP Used** display shows you how much CHIP RAM is being used for your current configuration.

If **Visible Size** is selected then your display size will be the same as selected under the **Visible Size** heading, so the entire Mac desktop will be visible at once.

If **Virtual** is selected then the **Width** and **Height** numbers control the size of a virtual screen that is at least as large as the Visible Size. Only a portion of this virtual screen is visible at any one time, the rest displayed when the pointer moves beyond the edge of the visible screen - the screen fine scrolls to display a new portion of the virtual screen. This feature - similar to that in AmigaDOS 2.0 - is available in all video modes except **A2024**.

5.1.4   Screen Positioning

For the **Hi-res** and **Hi-res Interlaced** video modes A-Max II centers the screen by referring to the AmigaDOS preferences file. Thus, if your normal Workbench display is centered, so will the A-Max II display.

If you need to center the screen on your monitor while using either of the **Productivity** video modes, you can adjust the X and Y coordinates of the ECS screen center. Normally, you won't have to adjust these values as the defaults will work correctly on most VGA or MultiSync monitors.

5.1.5   Colors

The Macintosh Plus screen uses two colors (black & white) as opposed to Amiga Workbench's 4 to 16. The **Paper** and **Pen** values allow you to select colors that will be used for the screen's background and foreground, respectively.

If you have the ECS chipset in your machine, the border color will be forced to black, otherwise the border color will be the selected paper color.

5.2   Memory Preferences

A-Max II can make use of all your Amiga's RAM (minus some amount for A-Max II overhead), but there can be restrictions due to fundamental differences between how the Macintosh and Amiga handle expansion memory.

A-Max II allows you to specify how much of your Amiga's RAM will be used by the Macintosh system. Any Amiga memory not used by the Mac system will be assigned to A-Max II's built-in RAM disk (see section 5.7).

There are also several options to control how A-Max II will make use of various types of memory in your system. These options differ depending on whether or not your Amiga is equipped with a Memory Management Unit, or **MMU**. An MMU is part of most 68020 or 68030 accelerator boards, such as the A2620, A2630 from Commodore and boards from GVP, CSA etc, and an MMU is standard on the Amiga 3000 series.

A-Max II will automatically make use of an MMU, if one is present, to increase its compatibility with the Mac. The memory use options in MMU mode are mainly for the purpose of discarding slower RAM blocks from Mac system memory so that A-Max II will run at its greatest possible speed.

If your Amiga does not have an MMU, A-Max II will run no matter what your system configuration. However, there are several memory use options that can improve your compatibility with certain applications, should problems occur. Also, altering your hardware setup can improve the compatibility of your system:

- Make sure you have 1 Mb of CHIP RAM in your system, because this RAM is identical in configuration to that found in real Mac. If you have an old Amiga, you may require a new Agnus custom Amiga chip to address 1-Mb CHIP RAM.

- Make sure any RAM expansion cards in your Amiga are installed adjacently in slots lower than any I/O cards, or a Bridgeboard.

In non-MMU mode A-Max II allows Mac software to make use of all the Amiga's expansion memory by permanently allocating the empty areas of the address space. This method means that the Mac OS is running with a certain amount of system memory, of which some proportion is always allocated. If you are using expansion memory and check the memory size given in the **About Finder** or **About this Macintosh** window, you will see an incorrect value given for the amount of RAM the Mac thinks it has. Don't worry, this is normal.

The A-Max 2.5 Software is compatible with **MultiFinder** and **System 7** (which now runs "MultiFinder" all the time as the standard "Finder.") MultiFinder is particularly useful with expansion memory in non-MMU mode because it controls the use of memory by applications in a manner that is compatible with A-Max II. So, running an application under MultiFinder may help for compatibility with A-Max II.

5.2.1   MMU Mode Memory Use Options

In MMU mode the use options are:

• Use Only 32-bit RAM
This option only makes use of any 32-bit RAM in the system. This will be fastest possible configuration, but all CHIP RAM, 16-bit expansion RAM, and other RAM will be used only for the RAM disk.

• Use All RAM
This option makes all your Amiga's RAM available for use by the Mac system.

• Don't Use CHIP RAM
This option makes use of all RAM except CHIP RAM, the slowest RAM in an Amiga.

In all cases, the fastest available RAM will made use of where it is most needed. For example, even in the **Use All RAM** mode, the system code, stack, and globals will be placed in 32-bit RAM, as will the first loaded Mac applications, to maximize the speed of any particular configuration.

5.2.2   Non-MMU Mode Memory Use Options

When not operating in MMU mode the use options are:

• Use All Expansion RAM
This option makes all Amiga RAM available as Mac system memory.

• Don't Use Slow RAM
This option uses all RAM except that found above location $C00000. Because of the high location of such RAM, it tends to be the least compatible of any Amiga RAM.

• Use Only CHIP RAM
This option only uses CHIP RAM as system RAM, however the A-Max II system code is still placed in expansion memory if available, for speed. This is the most compatible of the non-MMU modes, but limits you to the amount of CHIP RAM in your Amiga - typically 512 Kb or 1 Mb.

5.2.3   Memory Sizes

There are four memory size displays:

• System Memory
This displays your currently selected Mac system memory size - the amount of RAM Mac applications and system code will run in. Clicking on this button will increase its size to the next possible size.

• Max System Memory
This displays the maximum selectable System Memory size for the selected memory use option. This is not necessarily the amount of RAM in your system as not all RAM may be addressable by the Mac system.

• RAM Disk Memory
This displays the amount of RAM currently allocated to the A-Max II RAM Disk. As you select more system memory, the RAM Disk will decrease in size.

• CHIP Used
This displays the amount of CHIP RAM being used by the currently selected video display size.

5.2.4   Use Kickstart

The A1000 model Amiga allows the use of an additional 256K of RAM with A-Max II. This is the RAM where the disk-based Kickstart operating system normally resides. Making use of Kickstart RAM turns a 512K Amiga 1000 into a 768K Macintosh.

The **Use Kickstart RAM** option allows Amiga 1000 owners to use their extra 256k of RAM with A-Max II to increase the amount of memory available during Mac emulation. The only disadvantage in using this memory is that you will have to reload Kickstart when you want to return to AmigaDOS.

Note

If you wish to use your Kickstart RAM with A-Max II you must boot from a verbatim copy of your original **A-Max Program** disk. This disk has a non-standard boot block that enables A-Max II to take over the Kickstart RAM. If the boot block is rewritten or destroyed, you will not be able to access this Kickstart RAM, even though all other aspects of the A-Max II program work correctly. It is advisable, therefore, to keep your disk write-protected at all times to avoid viruses which often attack the boot sectors of floppy disks. If your boot block becomes corrupted, you can use the **FixBootBlock** command on the **A-Max Program** disk to rewrite the correct boot block.

5.3   Serial / Parallel Preferences

The standard Macintosh has two serial ports and no parallel port; one port is known as the Modem Port or Port A, and the other as the Printer Port or Port B. There are two options for each port to control how they are emulated.

5.3.1   Port Input / Output Options

The first set of options, labelled **Port A** or **Port B**, determines where Mac I/O for a particular port will be directed; for **Port A** the options are:

- **Plus Modem**
Data is directed through the Plus card's Modem port. Make sure the switch on the Plus card is set to **STD**.
Not selectable on A-Max II cartridge systems; requires the Plus card.

- **Plus MIDI**
Data is directed through the Plus card's Modem port, with the on-board MIDI drivers enabled. Make sure the switch on the Plus card is set to **MIDI**.
This option is not selectable on A-Max II cartridge systems; it requires the Plus card.

- **Amiga Serial**
Data is directed through the standard Amiga serial port. Baud rates are restricted to between 110 and 19200 with Amiga serial.

- **Amiga Parallel**
Data is directed through the standard Amiga parallel port. Data is output only, there is no input from this device. Note that A-Max II cannot access any third-party parallel output ports, only the Amiga parallel port can be used.

and, similarly, for **Port B** the options are:

- **Plus Printer**
Data is directed through the Plus card's Printer port.
This option is not selectable on A-Max II cartridge systems; it requires the Plus card.

- **Amiga Serial**
Data is directed through the standard Amiga serial port. Baud rates are restricted to between 110 and 19200 with Amiga serial.

- **Amiga Parallel**
Data is directed through the standard Amiga parallel port. Data is output only, there is no input from this device. Note that A-Max II cannot access any third-party parallel output ports, only the Amiga parallel port can be used.

The usual choice for A-Max II cartridge systems is to have the Mac's Modem (Port A) data coming out of the Amiga's serial port, and the Mac's Printer (Port B) data coming out of the Amiga's parallel port. If you have a serial printer connected to your Amiga, you'll want to set the Port B (Printer) output to the Amiga serial port. Also, some Mac applications can optionally send printer output through the Mac Modem Port (Port A), so sometimes you may want to control the Port A output.

5.3.2   ImageWriter Emulation Options

The second set of options controls what sort of printer emulation is active with each port's output:

- **None**
The port's output is passed through unchanged. This option is usually used with serial (e.g. telecommunications) output or with an Apple ImageWriter or LaserWriter printer connected to the Amiga.

- **IW-9 pin**
- **IW-24 pin**
- **LQ-24 pin**
The remaining options enable emulation of the Apple ImageWriter printer if you have an Epson compatible 9 or 24 pin dot matrix printer connected to your Amiga. (See section 11.1 for information on ImageWriter emulation and which option you should use.)

5.4 Hard Disk / SCSI Preferences

This window displays:

  • the name of the A-Max II hard disk driver to be used and its identification text;
  • the names of partitions that have been recognized for Mac use, and boot/mount options for each such partition;
  • the name of an AmigaDOS partition that can be used for file transfers to Mac partitions or disks;
  • an enable option for access to Mac SCSI devices.

Using hard drives and SCSI devices with A-Max II is described in Section 7. File transfer between AmigaDOS and Mac file system disks is discussed in Section 10.

5.5 General Preferences

5.5.1   Save Parameter RAM to Boot Disk

With this option set on, the A-Max 2.5 Software will simulate the Macintosh's 256 bytes of battery backed up parameter RAM that is used to store the various **Control Panel** settings by saving the contents of this RAM to your Mac System disk, as long as it is write-enabled.

It is unlikely that you will ever need to disable this option except to stop A-Max II from saving this information to a disk that has a non-standard Mac boot blocks. If you need to override the settings saved on a particular disk, hold down the **shift**, **Alt**, and **Amiga** keys while rebooting A-Max II. The parameter RAM will be reset to its default settings.

5.5.2   Boot from RAM Disk and Mount RAM Disk

These two options are discussed under Section 6.7, The A-Max II RAM Disk.

5.5.3   High Density Floppies

If you have one of Commodore's new 1.76 Mb floppy drives enabling this option will allow you to read, write and format 1.44 Mb disks directly compatible with high density disks created with an Apple SuperDrive, which is found on all current Macintosh models. Leave this option off if you don't have a high density drive, or are not using 1.44 Mb disks; this will reduce A-Max II's CHIP memory requirements. If you insert a high density disk in a 1.76 Mb drive with this option off it will be just be immediately ejected.

Section 6
A-MAX II OPERATION

This section details the differences between A-Max II and a standard Macintosh.

6.1 Keyboard Differences

The A-Max 2.5 Software now emulates the Apple Extended Keyboard; previous versions emulated the Macintosh Plus keyboard. The Extended keyboard has fifteen function keys, cursor control pad, numeric pad, an **Escape** key, and six IBM equivalent keys such as **Page Up**, **Home** etc.

NOTE

Not all keys on the extended keyboard are supported by all applications, for example the **Escape** key is often an equivalent to clicking a **Cancel** button, but not always. This is the case for true Macintoshes also.

There are several keys on the Extended keyboard that are not on the Amiga's; the key equivalents follow:

Command (⌘)   — right or left **Amiga** key
Option   — right or left **Alt** key

For the IBM keys described below, note that in most cases the key equivalent is **shift** plus the Amiga key with the same IBM function:

Home   — **shift** - 7 on the numeric pad
End   — **shift** - 1 on the numeric pad
Page Up   — **shift** - 9 on the numeric pad
Page Down   — **shift** - 3 on the numeric pad
Clear (Num Lock)   — **shift** - (on the numeric pad
F11   — **shift** - Del
F12   — **shift** - Help
F13 (Print Screen)   — **shift** - * on the numeric pad
F14 (Scroll Lock)   — **shift** -) on the numeric pad
F15 (Pause)   — **shift** - / on the numeric pad

Otherwise, each Macintosh key is represented on the Amiga keyboard. The Mac **Key Caps** desk accessory will allow you to verify the keyboard mapping.

For programmers, the Macintosh interrupt switch can be simulated by typing **shift-Escape** on the Amiga keyboard.

6.2 Disk Eject

Macintosh disk drives differ from most others, including the Amiga, in that they do not allow the user to eject disks upon demand. Instead, it requires you to ask, through software, that a disk be ejected. The reason for this is that the Mac system doesn't necessarily update directories or files immediately but, rather, waits until it must (i.e. it needs the memory or a disk swap is requested).

A-Max II indicates that an Amiga drive is ready to be ejected by displaying its drive number in the right hand side of the menu bar. Drives are numbered from 1 to 4, with drive 1 being the internal Amiga DF0. If an Apple external drive is connected it is always numbered 2, so that Mac software that can only access drives 1 and 2 will be able to access the Mac floppy. Other connected drives are numbered sequentially up to drive 4.

The Apple external 800K drive functions as it does normally on the Mac — disks are automatically ejected by the drive (there is no screen prompt to eject disks from an Apple drive).

NEVER just eject a disk manually under A-Max II. Remember to first click on an **Eject** button (or select an **Eject** menu option) and then pop the disk **only** when A-Max II had indicated that it is safe (look for the appropriate number in the upper right-hand corner of your screen). Failing to abide by this rule could result in corrupted or destroyed disks.

If you do eject a disk from an Amiga drive without the program's permission, A-Max II will detect this and **flash** the drive number on the menu bar. If this happens, you should immediately replace the ejected disk in the drive, which will clear the flashing prompt. Any disk access will be denied until the illegally ejected disk is replaced and the flashing prompt cleared.

There are several ways to request a disk be ejected on the Mac:

* When the Finder (Apple's desktop program) is running, you can eject a disk by selecting its icon and using the **File** menu command **Eject**, or **Amiga-E** from the keyboard.

* When an application is requesting a filename, the dialog box will usually have an **Eject** button to eject the currently displayed disk.

* Often the **command-shift-1** and **command-shift-2** keyboard sequences will eject the disks in drives 1 and 2. Unfortunately, this option is unavailable for drives 3 and 4 as this Macintosh keyboard macro doesn't support more than two drives.

* The supplied **Shutdown** program will eject all disks before rebooting. If the Finder **Shutdown** menu option is available on your System disk, it will eject all disks also. See the next section before using the Shutdown menu command.

WARNING

NEVER reset (**Control-Amiga-Amiga**) your Amiga or power down without ejecting all disks through the Mac system!

6.3 Finder Shutdown

All versions of the Finder have a menu command called **Shutdown** under the **Special** menu heading. On Finder versions 5.3 or earlier, this option will crash your Amiga. Finder versions 5.4 and later have two options, **Restart** and **Shutdown**. A-Max II supports the use of both options with these System versions.

The **Shutdown** command quits all open applications, ejects all disks and turns the screen black with a message saying it is safe to turn off your machine. At this point, you can click the **Restart** button if you want to reboot. If you have finished using Mac software and wish to return to AmigaDOS mode, now is a good time to reset with the **Control-Amiga-Amiga** key sequence.

The **Restart** command is similar but immediately restarts the Mac system back to the Mac boot screen.

6.4 Mouse Buttons

The Mac has a single button mouse, so the Amiga's right mouse button is unused when running Mac software.

6.5 Formatting Disks

Disks are formatted under A-Max II exactly the same way as on the Macintosh; placing a blank disk in the drive while at the desktop will bring up a dialog box prompting you to initialize the disk. Click on the **Two-Sided** button to format an 800K disk. In unusual circumstances you may find it necessary to format a 400K disk; click on the **One-Sided** button or, if there is just an **Initialize** button, hold down an **Amiga** key while clicking that button.

If you are using A-Max II Plus, the disk will be formatted to Mac format and will be readable on a real Macintosh. To format a disk in the A-Max II format, hold down a **shift** key until formatting has started.

If you are using the A-Max II cartridge system, the disk will be in A-Max's special format that is readable only on Amiga drives with A-Max. Of course, if you are using an Apple 800K drive, the disk you format will be readable on standard Macintoshes.

6.6 Sound

A-Max II supports most digitized sounds. You don't have to do anything to enable this feature, except set the sound volume level in the Mac **Sound Control Panel**. The sound option can be shut off by setting the volume to zero. If applications go directly to the hardware to produce sounds, some may produce undesirable results while others will work fine.

6.7 The A-Max II RAM Disk

A-Max II has a built-in RAM disk that automatically uses any Amiga memory not specified as Mac system memory (as selected with the **System Memory Size** parameter in the **Memory Preferences** window). The RAM disk is recoverable so it will survive A-Max II system reboots and can be booted from if it contains the necessary system files (System and Finder at least). The RAM Disk's contents will survive until you exit back to AmigaDOS.

The RAM disk will be mounted if there is memory allocated to it and the **General Preferences** option **Mount RAM Disk** is set on. With the A-Max 2.5 Software, the RAM disk is not ejectable and there is no need to press the **F1** key to mount it, as in previous A-Max versions.

The first time you boot A-Max with an enabled RAM disk, you will get the standard Mac format dialog box with the RAM Disk's icon (a memory chip, shown to the left) asking you to format the RAM disk. Just click on **Initialize** and type in a name for the disk (e.g. "RAM"). Once this is done, the RAM disk will appear as an icon on the desktop and you can copy files to and from it as you would an ordinary disk.

To boot from the RAM disk, simply copy your System files into it, then restart A-Max II. If the **General Preferences** option **Boot from RAM Disk** is set on, A-Max will restart from the RAM Disk based System.

6.8 Real Time Clock

A-Max II will automatically use the date and time from your Amiga system clock. You should use the AmigaDOS **Date** command to verify that your System clock is accurate before starting A-Max II.

Section 7
USING HARD DRIVES

If your Amiga has a hard disk controller installed, or is an Amiga 3000 with a built in SCSI controller, A-Max II can make use of partitions on your hard drives to store the Mac system and applications. If the controller has a SCSI port, A-Max II can use it to access partitions on Mac formatted SCSI drives, and use other Mac SCSI peripherals such as scanners, CD-ROM drives, and printers.

Storing data on a Mac formatted SCSI drive has the advantage of being able to access the drive from both A-Max II and real Macintosh systems. Storing data in a partition on an AmigaDOS hard drive lets you split an existing hard drive for use both by A-Max II and AmigaDOS.

If you are using removable media such as SyQuest drives, you may wish to format cartridges with a Mac SCSI driver that supports disk changes, for example Silverlining and many others. If you access these drives as an AmigaDOS device, as described in section 7.1, the cartridges will not be accessible with a real Mac with the same drive. To transfer data between Mac and A-Max II systems via cartridge, set up the drive as a Mac SCSI device, as descibed in section 7.6.

Hard disk controller cards on the Amiga are supported by A-Max II through the use of software drivers that are written specifically for given cards. A different driver is required for each controller. Several of these are supplied on the A-Max II Program disk in the DEVS: directory. ReadySoft has made an effort to make the necessary technical details available, but support for any card is dependent on cooperation from the controller card's manufacturer.

If a driver for your card isn't included on the A-Max II Program disk this doesn't mean that your controller card is not or won't be supported in the future. Contact your hard drive manufacturer and they may be able to send you a driver if they have developed one subsequent to this release of A-Max II.

7.1 Partitioning an AmigaDOS Hard Drive

Before A-Max II will recognize your AmigaDOS hard drive, it will have to be re-partitioned. In most cases re-partitioning the drive will erase any information already on it so you will need to backup and restore any AmigaDOS partitions - this will be covered in your controller's manual. A-Max II will allow up to eight A-Max II partitions spread across up to eight hard drives so long as they are all connected to the same controller card (any number of AmigaDOS partitions

may also exist on these hard drives). Any number of hard drive controllers may be installed in your Amiga and used by AmigaDOS but only one can be used by A-Max II.

To remain compatible with the large number of hard drive partitioning schemes for Amiga hard drives, A-Max II relies on the setup software that comes with every hard drive to create its partitions. An A-Max II partition is simply an AmigaDOS partition with a partition name that begins with the four characters "AMAX," or the two characters "AX." Some examples follow:

```
AMAX0:              AX0:
AMAXWork:           AMAX99:
```

Follow the controller card's manufacturer's instructions to create a partition of the size you want to dedicate to A-Max II use. When you are partitioning your drive(s), most hard disk setup utilities will ask you to name the partitions as you create them. To denote a partition as an A-Max II partition, the name you give it must begin with "AMAX" (no spaces, no hyphen) or "AX." Typically you might want to name your A-Max II partitions AMAX1, AMAX2, etc., but you could also name them AMAXWork, AMAXBackup.

If your partitioning software doesn't allow you to name your partitions (it may automatically name them DH2:, DH3: etc.), you may have to edit the mountlist that the partitioning software creates (in the DEVS: directory). You will have to find the default names that the partitioning software created and replace them with names beginning with AMAX (as discussed above). Hard disk controllers that utilize the Rigid Disk Format (or Hardblocks) which includes most modern controllers, won't create a mountlist entry so the only way to name your partitions is with the manufacturer's setup software itself.

Note that you cannot use the AmigaDOS Assign command to create a logical device for A-Max II use, for example

```
Assign AMAX1: DH2:
```

won't allow use A-Max II to use DH2:, it will just be ignored. The actual device name of the partition must contain one of the A-Max II partition specifiers.

Once all partitions you wish to dedicate to A-Max II use have been appropriately named, you must ensure that they are mounted before you run A-Max II. Most hard drive controllers will automatically mount all partitions, in which case, you won't have to do anything. Some older controllers (such as the Commodore 2090) will only mount the boot partition and leave it to you to

mount any other partitions. If this is the case, you should add the appropriate mount commands to your startup-sequence, for example:

```
Mount AMAX1:
Mount AMAX2:
```

7.2 A-Max II Hard Drive Partition Preferences

The **Hard Drive/SCSI Preferences** window contains information that will verify your partitions have been recognized by A-Max II. The **Partitions** entries list all partitions located in your system that fit the naming constraints described above in section 7.1, plus any named file transfer partition. Additional restrictions are:

• there is a maximum of eight A-Max II partions, including a file transfer partition, if selected.

• all the partitions must be on hard drives connected to the same hard disk controller. Most Amigas only have one controller card installed, so this is rarely much of a restriction.

If there are no partitions listed, go back and check the details in section 7.1.

The **Driver Name** field contains the filename of the A-Max II hard disk driver to be used, and the **Ident** field contains text describing the controller card(s) the driver supports. As long as A-Max II has located at least one usable partition, these two fields will be filled in by A-Max II.

Beside each partition name are two options that are usually set on. **Boot** means the partition will be checked to see if it can be booted from if it contains a Mac system. **Mount** just provides you with a way to disable any partition so that it won't appear on the Mac desktop. Both these options are permanently set off for the File Transfer Partition.

The option **Check for SCSI Devices** enables any additional Mac SCSI peripherals you have connected to the controller card that has been selected above. For example, if you wish to access an Apple formatted SCSI hard drive, the Apple CD ROM drive, or the LaserWriter IISC printer, this option needs to be set on. Even if you have no such such devices, enabling this option does no harm.

7.3 Initializing the A-Max II Partitions

Before you can use your A-Max II partitions to store any information, they must be initialized by the Mac system. This is done under the Mac Finder. Run A-Max II and boot the Mac with a floppy system disk (see section 4.0 — A-Max Startup).

When the Mac desktop appears it will display dialog windows for each uninitialized A-Max II partition one at a time, each with the message "This is not a Macintosh disk: Do you want to initialize it?," and an icon representing A-Max II partitions (a rectangular hard drive with a small Amiga "A" in the right corner, shown to the left.) After clicking the **Initialize** button there will be a confirmation dialog and then you will be asked to name the disk - this is the name that will reference the partition on the Mac desktop - use any name you like. After supplying a name for the drive, the dialog will then say "Creating directory." This could take several minutes, depending on the size of the partition and the speed of your hard drive and machine. When complete, an icon representing the drive will appear on the desktop.

If you have created more than one A-Max partition, another requester will appear and the process will repeat itself until all partitions have been initialized.

If you are not asked to initialize the partition, or the icon for a partition never appears after initialization, then either:

• the appropriate A-Max hard disk driver is not present in the DEVS: directory;

• the partition names you have used don't fit the criteria given in section 7.1; or

• the partitions weren't mounted before running A-Max II.

If any problems occur check the information in the **Hard Disk / SCSI Preferences** window before starting A-Max II.

Once your partition(s) have been initialized you may copy Mac applications, data and system files as you would normally, by dragging file and folder icons to the partition's icon on the desktop.

7.4 Making A-Max II Partitions Bootable

You will normally want to make one of your partitions bootable so A-Max II will automatically start the Mac system without the need for a floppy disk. Once set up, any one of the partitions can be made bootable by copying a System folder (containing both System and Finder files) into the partition, and making sure the **Boot** option for the partition in the Hard Disk Preferences window is set on.

If more than one partition contains a System folder, A-Max II will boot from the first valid system it finds. You should use the **Boot** options in the Hard Disk Preferences window to enable only the partition you wish to boot from. See section 7.7 for description of how A-Max II scans for a startup disk.

Apple recommends that a single partition or disk **never** have more than one System folder installed on it.

7.5 A-Max II Partitions Under AmigaDOS

Since A-Max II partitions are really just AmigaDOS partitions that contain non-AmigaDOS information, they are still present and accessable while running the normal AmigaDOS environment. Usually, a "Not a DOS disk" error will be returned if you attempt to access A-Max II partitions with AmigaDOS commands.

WARNING

It is possible to issue an AmigaDOS **Format** command that will reinitialize your A-Max II partition and make it usable by the Amiga filing system. Doing this will completely erase your A-Max II partition and any Mac programs or data you had stored there.

7.6 Using Mac SCSI Devices without A-Max II Partitions

As described in section 7.2, the **Check for SCSI Devices** option in the Hard Disk / SCSI Preferences window enables access to Mac SCSI peripherals. However, if you don't wish to use any A-Max II partitions on AmigaDOS drives, A-Max II won't know which driver is necessary for your controller card.

For this reason it is possible to type a filename in the **Driver Name** box which will be loaded in when you press the **return** key. The filename should be of the form:

```
devs:name.ambd
```

NOTE

If there are any AMAX: partitions present in the system, or a File Transfer Partition has been named, the driver name will be obtained from these partitions and any name you type in this box will be ignored.

To determine the name of the A-Max II hard disk driver you'll need the name of the AmigaDOS device driver used by the hard drive card. The documentation that comes with your controller should tell you the device driver name. If not, and the controller utilizes MountList entries to describe its partitions, you can find the device driver name from the entry for any AmigaDOS partition on a hard drive connected to the controller card. As you scan down the entries in the DEVS:MountList file, you will see Device = followed by the name of the software driver. For example the Commodore 2090 card uses a device driver called HDDISK.DEVICE, so a partition would have an mountlist entry:

```
Device = HDDISK.DEVICE
```

If your hard drive controller uses Rigid Disk Format (which means all partitioning information is saved on the first blocks of the hard drive itself, rather than MountList entries) then you won't have a MountList to consult. Check the documentation that came with your controller, or consult the manufacturer.

The name of the A-Max II hard disk driver is derived from the name of the AmigaDOS device driver name. In most cases the suffix is just changed from .DEVICE to .AMBD (in our example, the A2090 card would require a driver called HDDISK.AMBD).

Some common controllers' device names are as follows:

Controller	AmigaDOS device driver	A-Max II driver
A2090	hddisk.device	hddisk.ambd
A2091/A590	scsi.device	scsi.ambd
FastTrak	harddisk.device	harddisk.ambd
GVP	gvpscsi.device	gvpscsi.ambd
ICD	icddisk.device	icddisk.ambd
Supra	supradirect.device	supradirect.ambd
TrumpCard	ivs_scsi.device	ivs_scsi.ambd

There are some special cases that the A-Max 2.5 Software handles:

A590	xt.device	scsi.ambd
A2090	iddisk.device (etc)	hddisk.ambd

In addition, be sure to check the **ReadMe** file on your A-Max II distribution diskette for a listing of controllers and their device drivers that may have been added since this manual was prepared.

7.7 Startup Sequence

When A-Max II boots up it first checks for and installs all disk devices. These include:

- up to four floppy drives, one of which can be an Apple 800K drive connected to an A-Max II cartridge on the external disk port;

- the A-Max II RAM Disk, if RAM has been set aside in the Memory Preferences window and the **General Preferences** option **Mount RAM Disk** is set on;

- all the A-Max II hard disk partitions, in the order listed in the **Hard Disk / SCSI Preferences** window;

- Mac formatted SCSI storage devices, if the **Check for SCSI Devices** option is set on. Devices are mounted in order of descending SCSI device address number. The drivers for Mac SCSI devices are loaded from the device itself, and the driver will then read the device's partition map and install the partitions into the filing system.

Once all devices and partitions have been installed, the Mac system scans through the devices looking for a startup disk (a disk containing a valid System Folder.) The scanning order is the same as given above. It is possible to stop some devices from being considered in the search for a startup disk, by the following means:

- eject a floppy disk from its drive. You can eject all floppies by holding down the left mouse button down while rebooting A-Max II;

- set the **General Preferences** option **Boot from RAM Disk** off to disable a startup RAM disk;

- set an A-Max II partition's **Boot** option in the **Hard Disk / SCSI Preferences** window off to disable booting from that partition;

- all Mac SCSI devices can be disabled by turning off the **Check for SCSI Devices** option in the **Hard Disk / SCSI Preferences** window.

Note that, at the time of this writing, A-Max II cannot support the Mac system's startup disk control panel.

Section 8
SOFTWARE COMPATIBILITY

8.1 System Disks

A-Max II supports all the known Apple System disks, however System disk versions 6.0 or later are recommended. At the time this manual was printed, System versions up to version 7.0 had been tested. Some Mac applications will suggest or require a particular System version; you should, of course, use any recommended System version.

As explained in section 5.3 above, if you have a Finder version 6.4 or later (usually found on System disks version 4.0 or later), you will be able to use the **Shutdown** menu command.

8.2 Compatibility with Macintosh Applications

As A-Max II is an emulator and not a Macintosh, there will be some pieces of Mac software that will not run under A-Max II. Almost all Mac software that goes through the Macintosh operating system (such as most productivity software) will run with A-Max II. Because of the wide range of hardware in the Macintosh family it is rare for modern Mac software to bypass the system software.

Compatibility problems arise when software talks directly to the hardware, bypassing the operating system. This is most evident in copy-protected software, games and programs designed to use Mac hardware add-ons. Unfortunately there is little that can be done to allow these types of programs to run with A-Max II.

The A-Max II Plus card is more compatible with some software because it provides Mac software with two identical chips to those found in a Macintosh - the 8530 Serial Communications Controller (SCC) and the 6522 Versatile Interface Adapter (VIA.) Programs running under A-Max II Plus can directly access either of these chips and achieve the correct results. Examples of such programs include terminal programs, MIDI applications, and programs that make use of the VIA's accurate timers for graphics effects etc.

As described in section 5.2, if you are running A-Max II on an Amiga system without an installed MMU, there may be some memory options that will improve your system's compatibility. If your Amiga has memory at $C00000 (most commonly the 512 Kb expansion RAM in Amiga 500's and 2000's), you might consider disabling it, as this is the least compatible of all expansion memory locations. Select the **Don't Use Slow RAM** option in the **Memory Preferences** window. Some very old application software may even require you to disable all your expansion memory with the **Use Only CHIP RAM** option, which means the application must run in typically 512 Kb or 1 Mb of system memory.

8.3 What to Do if an Application Won't Run

Some older Macintosh applications will refuse to run unless your A-Max II system is configured exactly like a standard Mac. If you encounter such a program, try the following:

- upgrade your Mac software to the latest release version from the manufacturer

- run the application under MultiFinder instead of Finder, or under System 7.

- set your **Display Size** in the **Video Preferences** window to **512 x 342**, which is the standard Mac Plus and Mac Classic screen size

- try setting the sound volume level to zero in the **Sound** control panel. This can stop some applications from attempting to produce sound in an A-Max II unfriendly manner.

- as described above, if you are running in non-MMU memory mode try changing the **Memory Use** options in the **Memory Preferences** window.

- if you are running in MMU memory mode, try setting your memory size to 4096 Kb or less. This will map the Mac ROM into the same location as is used on a Mac Plus.

- if you are using A-Max II, try running the software on the A-Max II Plus system.

Section 9
SOFTWARE TRANSFER

This section describes A-Max II's support for cartridge systems without Apple external 800K drives. If you have the Plus card system, or are using an Apple 800K drive, this section is **not** relevant to you.

There are a number of ways to transfer files and data between A-Max II and a true Macintosh. Unfortunately, most of them require that A-Max II already be running and this cannot happen until you have an A-Max II format System disk. If you don't have an Apple drive, you must use the A-Max II Mini Transfer Disk method (see Section 3.5) to create a first working System disk. When you have a working System disk, you will be able to use any of the other transfer methods described below.

9.1 Full Disk Transfer

Full Disk Transfer is an option found in the Macintosh-based **Disk Transfer** program. It uses the same Mini Transfer Disks described above, but it allows you to store the contents of an entire 800K Macintosh disk on several 272K Mini Transfer Disks. As previously stated, it requires a Macintosh to prepare the disks, but it is also necessary that A-Max II is running, because the program that reassembles the Mini Transfer Disks back into one A-Max II format disk is, itself, on the A-Max II format **Utilities** disk.

You might typically use the program as follows: Borrow a Macintosh and create your first Mini Transfer Disk with a stripped down System on it. Then, you use the Full Disk Transfer option to spread the contents of System 6.0.3 across a series of Mini Transfer Disks. Similarly, you could decompose all your favorite full-disk applications onto separate sets of MTDs. When you return to your Amiga, you can use the first Mini Transfer System Disk to get A-Max II up and running, then begin rebuilding your software library onto A-Max II disks.

With the Disk Transfer program running on a Macintosh, click on the **Transfer Full Disk** button to begin. The Disk Transfer program will ask you to insert the source disk and up to two additional blank transfer disks, one at a time (if the destination disks are unformatted, the program will format them first).

After the transfer has been completed, you take the transfer disk(s) just created and the original source disk back to the Amiga. While running A-Max II, execute the **Disk Receive** program found on the **A-Max Utilities** disk. After
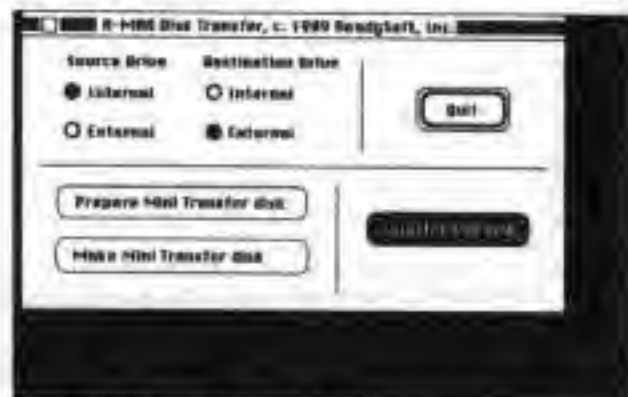
clicking the **Receive Full Disk** button, the program will ask you to insert a destination disk (which will be formatted if necessary) and the disks you created on the Mac as well as the original source disk one at a time into an Amiga drive. The separate disks will be reconstructed onto the destination disk in A-Max format so that they can be used in Amiga 3.5" drives with A-Max II. The original Macintosh source disk can be used in this case, because the Amiga's drives are actually capable of reading some (272K) of the data directly.

9.2 Serial File Transfers

A-Max II is compatible with many Macintosh terminal programs, including **MacTerminal** or the public domain **FreeTerm**. Once you have your A-Max II system up and running you can use a Macintosh terminal program to transfer software in two different ways.

9.2.1   Serial Transfer (null modem)

If you have access to a Macintosh, but don't care to use the **Disk Transfer** program, you can connect the Mac directly to your Amiga using a null-modem cable. With a terminal program running on the Mac and one running on the Amiga under A-Max II, you can send files from one machine to the other.

It is also possible to use an Amiga terminal program running under AmigaDOS to receive the data sent from the Macintosh. After receiving the file to Amiga-DOS format you can use the **File Transfer 2.5** program described in section 10 to convert the file to Mac format.

9.2.2   Serial Transfer (modem)

If it is impossible to physically connect your Amiga to a Macintosh, it still may be possible to use the Serial Transfer method through the medium of a local or commercial Bulletin Board service. All kinds of files can be uploaded to those remote locations and then retrieved using the same terminal software packages described above. In addition to your own collection of programs, it is also possible to download selections from the many network libraries of freely distributable Macintosh software. Useful software can be found in both the Mac and Magic Sac/Spectre areas of the networks.

Section 10
FILE TRANSFER UTILITIES

A-Max II provides the **File Transfer 2.5** application to enable you transfer files from AmigaDOS to and from the Mac filing system, with a variety of supported disk devices.

A-Max II is also compatible with the **Apple File Exchange** application that is supplied as part of the Apple System Software. This application supports file transfers between the MS-DOS, OS/2, ProDOS and Macintosh filing systems, utilising your Amiga drives to read standard 720 Kb MS-DOS disks. Use of **Apple File Exchange** is described in Apple's System Software documentation.

10.1   File Transfer 2.5 Software

The A-Max 2.5 Software includes a new utility for transferring files back and forth between AmigaDOS 880 Kb floppy disks or a hard drive partition, and any Mac Format A-Max disk device. This program, **File Transfer 2.5**, replaces the **File Transfer** program found on the earlier A-Max release diskettes. File Transfer 2.5 is included on the Utilities disk.

File Transfer 2.5 also provides functions to convert different types of files during the transfer. With the **MacBinary** file transfer, for example, you may download Mac applications under AmigaDOS from information services and then later transfer the application from MacBinary format into a runnable form on the Mac side.

File Transfer 2.5 can use one of two AmigaDOS format disks - a floppy in drive DF0: or a Hard Disk partition whose name is specified in the **Hard Disk/SCSI Preferences** window. File Transfer 2.5 supports both Fast Filing System (FFS, WB 2.0) and Old Filing System (OFS, WB 1.2) formatted partitions.

File Transfer 2.5 works under A-Max II and produces the only instance when you can legally insert an AmigaDOS format floppy disk. The only floppy drive that can receive this disk is the internal or first drive (DF0:). In order to use File Transfer 2.5, you will need at least one other available disk drive (to hold the Macintosh filing system disk). If you have an 800K Apple drive, you can use a real Macintosh format disk. If you don't have an Apple drive, but do have a second Amiga drive, you can use an A-Max II format disk in this drive. If your system contains only one disk drive, you will have to install and initialize the A-Max II RAM disk and use that as your second drive. Of course, if you are

running your A-Max II system with Mac hard disk partitions, these may also be used with File Transfer 2.5.

If you are transferring data to a Mac format disk, you will need to make sure the file(s) to be transferred are set up either on an AmigaDOS partition which is named under **File Transfer Partition** in the **Hard Disk / SCSI Preferences** window, or on an AmigaDOS 880 Kb floppy and the **File Transfer Partition** name is empty.

If you are transferring data to a AmigaDOS format, make sure you have a named partition with sufficient free space, or a formatted AmigaDOS floppy disk ready to receive the transferred file.
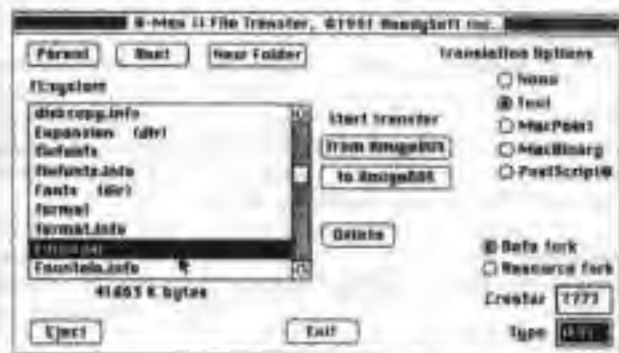
Start A-Max II and boot the Mac system as usual. Double click the **File Transfer 2.5** program icon to run it. File Transfer 2.5 will read and display the root directory of the selected File Transfer partition, if present, otherwise it will wait for the insertion of an AmigaDOS floppy disk.

WARNING

If you should insert the AmigaDOS disk before running File Transfer 2.5, the Mac system will report that the disk is unreadable and ask if you want to initialize or eject it. Initializing it will destroy the AmigaDOS formatting and make file transfer impossible. Eject the disk and be sure to start the File Transfer 2.5 program **before** inserting the AmigaDOS floppy.

When the program is running and a valid AmigaDOS directory has been read and displayed, you are ready to transfer files. Before selecting a file choose one of the conversion types arrayed down the right side of the window, described below.

10.2 File Conversion Options

The conversion options are:

• None

Copies the file without any translation.
Use this option if you plan to convert the raw data with another program,
for example converting **TIFF** to **HAM** graphics with **Art Department
Professional** for the Amiga.

• Text

Converts plain text files between the two systems. Amiga line feeds and
Mac carriage returns are translated and vice versa.

• MacPaint<->IFF

Converts single bit plane (monochrome) images between the two formats.

• MacBinary

MacBinary is the most common format for Macintosh applications and files
stored on Bulletin Board Systems. Macintosh files downloaded from BBSs
can be transferred using the MacBinary setting.

• PostScript

Use this option when transferring PostScript files.

10.3 Advanced Options

There are additional gadgets for selecting Mac-specific attributes of the Mac
source or destination file. When a file conversion option is selected defaults
are set for these options that will be correct for most uses of File Transfer 2.5.

10.3.1 Fork Selection

Macintosh files are composed of two logical segments called forks. Every file
can have both a "resource" and a "data fork." Most applications and many data
file formats will store all their information in the resource fork (and access it
with the Mac Operating System's Resource Manager.) Some files may have
text or other data stored in the data fork.

The fork selection gadgets allow you to reference the contents of either fork of
a Macintosh file. The **MacBinary** conversion mode always transfers both forks
of a file.

10.3.2 File Type and File Creator

Every Macintosh file has a **File Type** and a **File Creator** field. This information
provides the same basic function as AmigaDOS's .info files. Each of these
items is a four character string. The file type specifies what kind of information
the file contains: TEXT, APPL, PICT, PNTG, etc. The file creator is a unique
identifier of the application that that created the file: WRIT, PENT, etc.
To enter a File Type or File Creator, click in the appropriate string gadget and
type the identifier. Again, if you don't know what abbreviations to use, or do not
care to specify any, the default values will most often be correct.

10.4 Transferring the File

10.4.1 Copying AmigaDOS->Mac

Use the **Parent** and **Root** gadgets or double-click on directory names to move
through the AmigaDOS directories. Select the file you wish to transfer by
scrolling through the list of filenames and then single-clicking on the name (it
will be highlighted). The current path is displayed above the directory list.
Click on **From AmigaDOS**.

A standard Mac file requester will appear. Select the drive and, optionally, any
subdirectories to which you want the destination file copied. If you choose, you
may also give the destination file a new name. The file will inherit the source
file's name if you don't change it. Click on **Save** to begin the transfer.

10.4.2 Copying Mac->AmigaDOS

Select a destination directory of the AmigaDOS disk or partition to receive the
Mac file (a file name can be selected but it won't have any effect — only the
currently displayed directory is used). Click on **To AmigaDOS**.

A standard Mac file requester appears. Select the file that you wish to copy.
Click on **Open**. The file is then transferred to the AmigaDOS disk with the
same file name. If a file by that name already exists, you will be prompted to
Cancel the operation or **Overwrite** the file.

Section 11
PRINTERS

A-Max II supports several types of printers, each of which is described below.

11.1 Apple ImageWriter

You will need the Apple **ImageWriter** printer driver in your System folder, which must be selected from the **Chooser** desk accessory and assigned to the printer port (Port B.) You will also need the correct cable to connect the imagewriter to the Amiga's serial port, or a serial port of the Plus card. In the **Serial / Parallel Preferences** window, select **Port B** to be the correct serial port (**Amiga Serial** or **Plus Printer**, depending on which you have connected the ImageWriter to) and set the Port B **Imagewriter Emulation** to **None**. You should now be able to print as you would normally on a Mac with an Imagewriter.

11.2 Epson Compatible 9 & 24 pin Dot Matrix

You will need the Apple **ImageWriter** or **ImageWriter LQ** printer driver in your System folder; use the **LQ** driver if you have a 24-pin printer. Select the correct driver and output port with the **Chooser** desk accessory, as described above in section 11.1. The setting of the **Imagewriter Emulation** option depends on which printer you are using:

- **9-Pin Printer**
Select **IW-9 pin** for the ImageWriter emulation on port B.

- **24-Pin Printer**
Select **LQ-24 pin** if you are using the LQ ImageWriter driver, or **IW-24 pin** if you are using the ImageWriter driver.

The ImageWriter emulation feature translates the ImageWriter control codes into Epson compatible codes as they go out the port. Because the ImageWriter printers have unusual print densities, some printing will not have a 1:1 aspect ratio when printed on an Epson printer. When printing **Best** quality graphics on an Epson compatible printer, the horizontal print density will be higher than that of an ImageWriter, so that the image will be compressed horizontally by about 40%. When printing 24 pin graphics, the vertical density is a little less than that of an ImageWriter LQ, causing pages to be about 20% longer than they would normally be.

Usually, the **Faster** print mode will provide the closest aspect ratio to 1:1 possible on your printer.

If the built-in ImageWriter emulation of A-Max II is too limited for your use, you should consider a third-party Mac printer driver for your printer. Generally these drivers will scale the image correctly for your printer's densities. See Section 11.4.

11.3 Apple LaserWriter and other PostScript Laser Printers

If you are using the Plus card and an AppleTalk (LocalTalk) printer, you can print directly as you would normally on a real Mac. The Plus card's LocalTalk feature is described in Section 12.1.

The rest of this section is for A-Max II cartridge system owners who wish to print to a serial or parallel compatible laser printer. This method has restrictions and is not as compatible as direct printing through AppleTalk and a Plus card.

The A-Max II cartridge does not support the AppleTalk local area network and thus cannot support direct printing to the LaserWriter, however, it is possible to print to the LaserWriter and other PostScript Laser printers by creating a PostScript text file and then dumping this file out the serial or parallel port with the supplied File Dump program, or any compatible terminal program.

11.3.1 Creating the PostScript File

Your System folder should contain the **LaserWriter** and **LaserPrep** files and the LaserWriter should be selected with the **Chooser** desk accessory. When selecting the LaserWriter, you can safely ignore any "Can't Open AppleTalk" messages. Proceed to print as you would normally, but immediately after clicking the **Print** button on the print dialog, press and hold the **Command-K** (**Amiga-K**) keys until the message "Creating PostScript file" is displayed. The file will be called "PostScriptX" where X is unique digit for each PostScript file on the disk.

The System 7 LaserWriter driver has a **Destination** option to print to a disk file which simplifies the above process. Simply set this option to **PostScript® File** before clicking the **Save** button and select a destination file name in the standard file requestor.

Some Mac applications, such as Aldus' PageMaker, utilize their own printer drivers, most of which have options to create a PostScript file.

11.3.2   Printing the PostScript File

Before sending the PostScript file to your printer, you must have setup the
Serial / Parallel Preferences window so that either the modem port or, more
typically, the printer port, is set to output to your printer (either parallel or serial)
and that ImageWriter emulation for that port is set to **None**.

Now run the program called **File Dump** supplied on the **A-Max Utilities** disk.
This program will allow you to select the output port (modem or printer), baud
rate, parity, number of bits, and handshake method (if you are using a parallel
printer you won't need to set any of the serial parameters). When these
parameters have been set, click on **Dump File**, select the name of the file you
want to print in the standard file requestor and it will be sent. Hold the
Command - Period (Amiga - .) keys down if you wish to stop the dump before
it's complete. Once the file has been sent you will be returned to the first
parameter selection screen. Repeat the process with another file or click on
Quit to exit.

If you are using a LaserWriter printer, connect it to the Amiga's serial port, set
the LaserWriter to 1200 or 9600 baud rather than AppleTalk mode, and set the
baud rate on File Dump to agree with your baud selection on the LaserWriter.
The LaserWriter operates in hardware handshaking mode at all times. A non-
Apple PostScript printer should be set to **PostScript Interactive** mode rather
than **Batch** mode and connected to the Amiga's serial or parallel ports with File
Dump's output port set appropriately.

11.4   Other Printers

There are several third party suppliers of printer drivers that allow the Mac to
use other types of printers. We have successfully tested the GDT Softworks
(phone (604) 291-9121) printer drivers which are available for dot matrix, daisy
wheel and HP LaserJet printers.

Section 12
PLUS CARD SPECIFIC FEATURES

This section covers other features the Plus card has over the cartridge system
that have not already been covered.

12.1   LocalTalk (AppleTalk)

AppleTalk now describes all of Apple's networking system, and **LocalTalk**
describes the low level physical hardware and access protocol of Apple's low
cost network hardware, which was previously known as AppleTalk. AppleTalk
Phase 2 can also utilize Ethernet (via **EtherTalk**) and Token Ring (via **Token-
Talk**) hardware. For the present release, A-Max II supports only LocalTalk
networks. Support of the Commodore Ethernet card may be forthcoming.

The A-Max II Plus system provides you with two serial ports that provide the
same features as those of a Mac, including compatibility with the LocalTalk
interface boxes made by Apple and other manufacturers, and other interfaces
such as Farallon Computing's **PhoneNet**.

Using LocalTalk with A-Max II Plus is identical to real Macs, there are no start-
up preferences controlling this option. Connect the interface hardware to the
Plus card's Printer Port, and use the **Chooser** desk accessory to turn Apple-
Talk on. You should be able to access AppleTalk printers and file servers as
you would on a Mac.

12.2   MIDI (Musical Instrument Digital Interface) Support

With the Plus card you can run many of the popular Macintosh MIDI sequenc-
ers and tools. The Plus card provides the same serial hardware as a Mac so
that these programs can directly access the serial hardware and still remain A-
Max II compatible.

When running MIDI software you can make use of the Plus card's on-board
MIDI interface box by connecting the optional ReadySoft MIDI Y-cable, flicking
the Plus card's switch to the **MIDI** position and setting the **Serial / Parallel
Preferences** window option **Port A** to **Plus MIDI**. Alternatively, you may
choose to connect the same MIDI box that you would normally use on a Macin-
tosh to one of the Plus card's serial ports, for example if you need more than
one MIDI Out port. In this case set the switch to the **STD** position and the **Port
A** option to **Plus Modem**, or set the **Port B** option to **Plus Printer**.

Once you have set up your system, MIDI applications should run as they would normally.

NOTE

The Plus card's MIDI interface provides software with a 1 MHz crystal oscillator based reference frequency for precise adherence to MIDI specifications.

Section 13
GLOSSARY

Agnus

An Amiga custom chip that determines the amount of Chip memory your Amiga can use. A new Agnus chip that is part of Commodore's ECS upgrade allows A500 and A2000 computers to address 1Mb of Chip memory, which is a more A-Max II compatible memory configuration than the usual 512k Chip RAM size.

AppleTalk

Apple's local area networking System Software.

Chooser

A Macintosh desk accessory that allows the user to select which printer driver on the System disk will be used for printer output, as well as other options such as the printer output port and AppleTalk activity.

Control Panel

A Macintosh desk accessory that lets the user control several different options, such as sound volume, mouse and keyboard. Equivalent to the Amiga's Preferences program.

Data Fork

One logical segment of a file in the Macintosh filing system that contains simple streamed data (e.g. the raw text characters in a word processing document). See also Resource Fork.

Desk Accessory (DA)

A special type of Mac program that is part of the System file and is accessible while running most applications from the Apple menu.

ECS (Extended Chip Set)

A new version of the Amiga custom chips that allows the Amiga to address 1Mb of Chip RAM and produce non-interlaced displays with a multi-sync monitor.

File Creator

A four character unique identifier contained within a file in the Macintosh filing system that identifies the program on which the file was prepared.

File Type

A four character designator contained within a file in the Macintosh filing system that identifies what kind of file it is and helps the Finder decide how to use it.

Finder

The program that creates the Apple desktop. Equivalent to the Amiga's Workbench. The Finder program has many versions and should always be run in conjunction with the correct version of the System file.

Fork

In the Macintosh filing system, on of two logical segments that constitute a file. See **Resource Fork** and **Data Fork**.

Interlace

An Amiga video mode that displays twice the normal number of screen lines at half the refresh rate. This leads to a flickering display on ordinary monitors, but some monitors are designed to minimize flicker, such as the high persistence Commodore A2080 monitor or the A2024 monitor.

Magic Sac

A 64K ROM Macintosh emulator for the Atari ST.

MTD (Mini Transfer Disk)

A disk specially formatted on a Macintosh with a capacity of 272K that can be read directly in an Amiga drive. An MTD can be used to transfer software from a Mac format disk to an A-Max format disk if you have access to a Macintosh but do not have an Apple 800K drive connected to A-Max Ii.

Resource Fork

One logical segment of a file in the Macintosh filing system that contains many elements and types of information, access to which is controlled by the Resource Manager. See also Data Fork.

Spectre 128

A 128K ROM Macintosh emulator for the Atari ST.

System

A file which contains information the Macintosh requires for use at all times. This includes startup information, fonts, desk accessories, and other system code. There are many different System file versions, some of which require certain ROMs.

System Disk

A disk that has the required system information on it for the Mac to startup (boot) from it. This always includes the System file and usually the Finder file (it is possible to have a System disk that consists of a System file and an application that is started automatically). Often there will be other files that are not absolutely necessary for startup. All the various system files are often held together in a System folder on the System disk.